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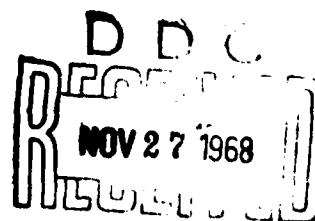
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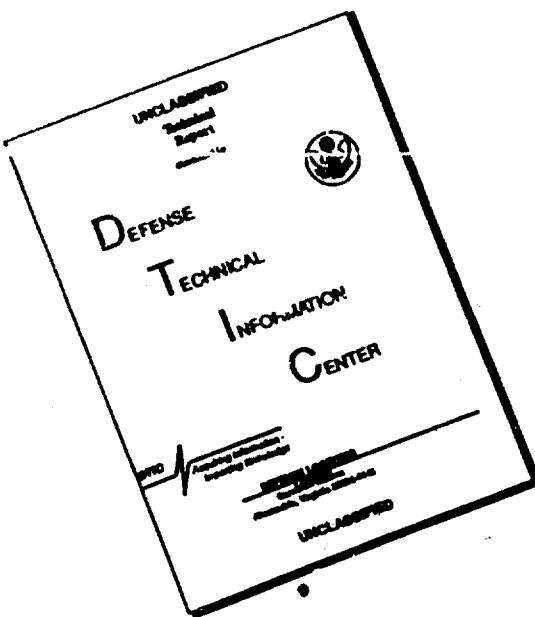
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ALLERGIC REACTIONS IN PRODUCERS
IMMUNIZED WITH LIVE TULAREMIA CULTURE

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In the preparation of tularemia diagnostic serum, extensive use is made at the present time of a live culture of tularemia microbe. Employment of the latter in the process of immunization of horses, on mass production of the serum, has often brought about complications in the form of anaphylactic shock, which sometimes caused the animal's death.

In order to eliminate or lessen the sensitivity of the producers we have made use of the specific desensitization method.

The experiments were conducted with horses and rabbits. All the animals were divided into three groups: 4 rabbits of the 1st group were immunized only intravenously; 4 rabbits of the 2nd group, and also 2 horses, were given the culture subcutaneously and intravenously; to 4 rabbits and 2 horses of the 3rd group, besides the combined injections, were administered additional small desensitizing doses of the corresponding culture, every other day or daily.

As antigen for immunization stimulus served three strains of tularemia causative agent with residual virulence to white mice (No 10, 15, 53), grown on a medium of dry agar with yolk for 48 hours at 37°. The suspension, washed off with physiological solution, was standardized against the optical standard. Antigen doses were gradually increased, taking into account the animal's reaction. The horses

received from 500 million to 10 billion microbial cells intravenously as well as subcutaneously. The rabbits were immunized with combined doses ranging from 250 million to 2 billion microbial cells, while the 1st group of rabbits received intravenously a total culture dose from 500 million to 4 billion microbial cells. The additional desensitizing dose, which was used in the 3rd group, was of 50 million microbial cells for horses and of 5 million for the rabbits. Intervals between the injections were of 5-6 days.

The immunizing dosage of culture was administered intravenously to the animals of the 1st group, while in the 2nd and 3rd group, in order to desensitized the system, the antigen was administered subcutaneously 3 hours prior to the intravenous injection. Animals of the 3rd group received in addition, between the principal injections, small subcutaneous doses of live tularemia culture. Experiments with horses were conducted over the duration of 3-6 cycles; in all the groups of rabbits this duration was of 1 cycle.

On repeated administrations of antigen, the allergic state was more strongly manifested in animals of the 1st and 2nd group. In the course of the process all rabbits of the 1st and 2nd group died, even following administration of medium dosages, whereas the rabbits of the 3rd group tolerated well all of the injections, and survived.

Horses immunized only by the combined method, without additional injections, sustained severe shock, which was of long duration and terminated in death within the first cycles of the process.

On immunization with additional administration of small doses of antigen, encouraging results were obtained. All the animals of this group tolerated well the injections of the culture, and in those instances where a state of shock did develop it was slightly manifested and of shorter duration. No instance of death was observed among the animals of this group. The proposed scheme of immunization for the relief of anaphylaxis produced no detrimental effect on production of specific antibodies or on the general condition of the producers. Determination of agglutination titer of the blood serum of horses and rabbits showed it to be slightly higher in the desensitized animals (1:2000 - 1:3200 in horses and 1:3200 - 6400 in rabbits), as compared with those immunized according to the usual scheme (1:1600 - 1:2000 in horses and 1:3200 in rabbits).

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